

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (previously presented) An oil free screw compressor comprising:

a compressor main body having a male rotor and a female rotor which are received in a casing and meshed with each other;

first and second bearings for supporting the male rotor and the female rotor;

a high speed motor driven by a high frequency inverter, said high speed motor having a motor shaft in which the motor rotor is formed; and

a third bearing for rotating and supporting the motor shaft;

said first, second and third bearings being made the same with respect to each other.

2. (previously presented) An oil free screw compressor comprising:

a compressor main body having a male rotor and a female rotor which are received in a casing and meshed with each other;

first and second bearings for supporting the male rotor and the female rotor;

a first shaft sealing apparatus for preventing an oil from entering into a compression chamber formed by said casing, the male rotor and the female rotor;

a high speed motor driven by a high frequency inverter, said high speed motor having a motor shaft in which the motor rotor is formed;

a third bearing for rotating and supporting the motor shaft and a second shaft sealing apparatus for preventing a lubricating oil for lubricating the third bearing from entering within the high speed motor;

said first shaft sealing apparatus and said second shaft sealing apparatus being made the same.

3. (previously presented) An oil free screw compressor comprising:

a compressor main body having a male rotor and a female rotor which are received in a casing and meshed with each other;

first and second bearings for supporting the male rotor and the female rotor;

a first shaft sealing apparatus for preventing an oil from entering into a compression chamber formed by said casing, the male rotor and the female rotor;

an electric motor driven by an inverter and connected to a suction side of said compressor main body, said electric motor having a motor shaft in which the motor rotor is formed; and

a third bearing for rotating and supporting the motor shaft and a second shaft sealing apparatus for preventing a lubricating oil for lubricating the third bearing from entering within the electric motor;

said first, second and third bearings being made the same with respect to each other, and said first shaft sealing apparatus and said second shaft sealing apparatus being made the same.

4. (New) The oil free screw compressor according to claim 1, wherein said first bearing supports said male rotor and said second bearing supports said female rotor.

5. (New) The oil free screw compressor according to claim 2, wherein said first bearing supports said male rotor and said second bearing supports said female rotor.

6. (New) The oil free screw compressor according to claim 3, wherein said first bearing supports said male rotor and said second bearing supports said female rotor.
7. (New) The oil free screw compressor according to claim 1, further comprising a coupling that couples said motor shaft to one of said male and female rotors so that a rotational speed of said motor shaft is equal to a rotational speed of at least one of said male and female rotors.
8. (New) The oil free screw compressor according to claim 7, wherein said coupling comprises a first gear provided on one of said male and female rotors and a second gear meshing with said first gear and provided on said motor shaft, wherein a ratio of a number of teeth between said first gear and second gear is substantially one to one.
9. (New) The oil free screw compressor according to claim 1, wherein said motor shaft is integral with one of said male and female rotors.
10. (New) The oil free screw compressor according to claim 2, further comprising a coupling that couples said motor shaft to one of said male and female rotors so that a rotational speed of said motor shaft is equal to a rotational speed of at least one of said male and female rotors.
11. (New) The oil free screw compressor according to claim 10, wherein said coupling comprises a first gear provided on one of said male and female rotors and a second gear meshing with said first gear and provided on said motor shaft, wherein a ratio of a number of teeth between said first gear and second gear is substantially one to one.
12. (New) The oil free screw compressor according to claim 2, wherein said motor shaft is integral with one of said male and female rotors.

13. (New) The oil free screw compressor according to claim 3, further comprising a coupling that couples said motor shaft to one of said male and female rotors so that a rotational speed of said motor shaft is equal to a rotational speed of at least one of said male and female rotors.

14. (New) The oil free screw compressor according to claim 13, wherein said coupling comprises a first gear provided on one of said male and female rotors and a second gear meshing with said first gear and provided on said motor shaft, wherein a ratio of a number of teeth between said first gear and second gear is substantially one to one.

15. (New) The oil free screw compressor according to claim 3, wherein said motor shaft is integral with one of said male and female rotors.